abnormalities were found in 146 (70.2%) of patients at the entry (ILD 81, (38.9%); nodular lesions 45, (21.6%); and AD 115, (55.3%)). During the observation period (3.26±2.61 years), newly emerging pulmonary lesions were found in 31.3% of patients and the incidence of which was 11.1/100 person-year. Cluster analysis of newly emerging lesions showed 7 clusters (Fig.1); Cluster 1; no new lesions, Cluster 2; nodular lesions, Cluster 3; curved linear opacities, Cluster 4; bronchioectasis, Cluster 5; consolidations, Cluster 6; new bronchiolitis, and Cluster 7; GGO.

Newly emerging lesions frequently occurred in patients with pre-existing pulmonary lesions. Notably, curved linear opacities and bronchiolitis were developed in patients without pre-existing lesions with high frequencies compared to those with pre-existing ones (Fig.1). In patients with pre-existing lesions, various lesions were developed, particularly GGO and consolidation.

The checkerboard analysis of pre-existing and newly emerging lesions revealed relation between 1) pre-existing honeycomb, small nodular lesions, bronchiolitis or bronchioectasia and newly emerging GGO and 2) pre-existing nodules and new bronchial wall thickening. In addition, bronchioectasia has the tendency to develop in patients with bronchitis, and conversely bronchiolitis occurred in patients with bronchioectasia. The relation between pre-existing small nodules or bronchiolitis and GGO was shown by analysis of pre-existing lesions and clusters of newly emerging ones.

Conclusion: Pulmonary lesions were developed in several patterns, not at random. Pre-existing pulmonary abnormalities induced new pulmonary lesions. Airway diseases, particularly bronchiolitis, might be important initial lesions that induce new pulmonary lesions, especially GGO.

Disclosure of Interests: None declared

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Fig1: Frequency of new pulmonary lesions

Figure 1

AB0360C

AN OBSERVATIONAL STUDY INTO THE RELATIONSHIP OF ANTI-CYCLIC CITRULLINATED PEPTIDE ANTIBODY AND RHEUMATOID FACTOR WITH LUNG DISEASE

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Background: Extra-articular disease in rheumatoid arthritis (RA) occurs in nearly 50% of patients, the lung being a common site of complication. (1) Raised RF and anti-CCP titers have been associated with the development of pulmonary disease. Smoking in genetically susceptible individuals can result in protein citrullination and enhancement of autoimmune reactivity (2).

Objectives: Our aim was to explore the relationship between the presence of RhF and anti-CCP antibody with pulmonary manifestations in the following groups: RF positive only (group 1), Anti-CCP factors positive only (group 2) RF and anti-CCP positive in combination (group 3) we also explored the relationship between smoking, seropositivity and lung disease.

Methods: In this retrospective cross-sectional observational study of 2088 patients who had a RF and anti-CCP antibodies tested during Nov-2015 and Oct-2016 at Royal Wolverhampton Trust. Out of 2088, 1662 patients tested negative for both anti-CCP and RF and were excluded from analysis. 426 out of 2088 tested positive, of which 89 patients were anti-CCP only positive, 100 patients were RF only positive and 237 patients were positive for both antibodies. Data was collected on 89 patients from each group. Data collection included patient age, gender, smoking status, pulmonary manifestations, RF and anti-CCP titer, background of RA and current medications including DMARDS and biologics.

Results: In group 1 (30) 33.7% of RF positive patients suffered from RA, with (63) 70.7% in group 2 and (82) 92.1% in group 3 (P=0.00001). In group 1 17% were current or ex-smokers, 29% in group 2 and 52.7% in group 3 (P=0.02). Lung disease was present in 13.4% from group 1, 7.8% from group 2 and 12.3% from group 3 with no significant statically difference between the three groups (p=0.376). In group 2 and 3 all patients with lung disease had RA. From group 1, 50% of those with lung disease had a diagnosis of COPD, followed by 20% with bronchiectasis and 10% with ILD. Of note patients with a diagnosis of COPD had a higher titer of RF. In group 2 a third of patients with lung disease had a diagnosis of COPD and ILD respectively, and again these patients had higher titers of anti-CCP. In group 3 13.4% suffered from lung manifestations and 37.5% had a diagnosis of pulmonary fibrosis, 12.5% diagnosed with ILD and the remaining 50% had COPD and pleural disease.

Conclusion: Antibody positivity was associated with higher prevalence of RA. Our data provide evidence for the association between smoking and raised antibody titers, especially with anti-CCP antibodies. Lung disease was more strongly associated with RF than anti CCP even though the proportion of smokers was higher in patients with positive anti CCP compared than RF. However lung pathology varied with airway obstruction being more prevalent in RF positive patients compared with fibrosis in patients who were RF and CCP positive. Furthermore, our findings suggest that RF is more strongly associated with lung disease than anti CCP though citrullination is thought to start in the lungs. Our findings demonstrate that lung disease is prevalent in patients with RA and should be anticipated and treated accordingly in order to reduce mortality. Seropositivity of both RF and anti-CCP can be linked with a higher prevalence and greater severity of pulmonary disease activity however this requires replication in a larger cohort.

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ADHERENCE TO THERAPY IN RHEUMATIC PATIENTS TREATED WITH SUBCUTANEOUS BIOLOGICS

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Background: Patients' adherence to treatments is undoubtedly a fundamental part of a successful therapeutic strategy, even for rheumatic patients. In fact, the lack of adherence to treatment should be considered in all cases of "supposed" inefficacy of therapy prescribed.

Objectives: We aimed to evaluate the adherence to treatment in a series of rheumatic patients from a single Centre (Catania, Sicily, Italy).

Methods: We recruited 85 consecutive patients (M/F: 25/60; mean age 52.713.5 years) affected by chronic inflammatory arthropathies treated with subcutaneous biologics. All patients completed the 5-item version of Compliance Questionnaire for Rheumatology (CQR 5)¹ and the Morisky Medication Adherence Scales (MMAS-8)², in order to estimate their adherence to therapy. Moreover, all patients completed the Patient Global Assessment (PGA), the Visual Analogue Scale (VAS) for articular pain, and the Health Assessment Questionnaire (HAQ), in order to estimate their personal judgments on the effectiveness of therapies. Finally, the eventual presence of adverse events were reported.

Results: Considering MMAS-8, 7/85 (8.2%) patients were low adherent to treatment (score <6), and 27/85 (31.8%) presented medium-grade adherence (score 6-7). Interestingly, the CQR 5 failed to precisely identify these patients. Adherence to therapy was not related to age, gender, education level, articular disease, adverse events, association with DMARDS. Notably, the use of etanercept (originator or biosimilar) was significant more frequent in low-adherent patients (5/7 vs. 19/78; p=0.017). Finally, a trend to higher mean levels of PGA (57.1 vs. 37.6; p=0.06), VAS (68.6 vs. 42.6; p=0.06), and HAQ (1.3 vs. 0.7; p=0.052) was reported in low-adherent patients.

Conclusion: Our preliminary study confirmed that the low adherence to therapy (better identified with MMAS-8) is a relevant issue in the management of rheumatic patients treated with biologics. Moreover, low-